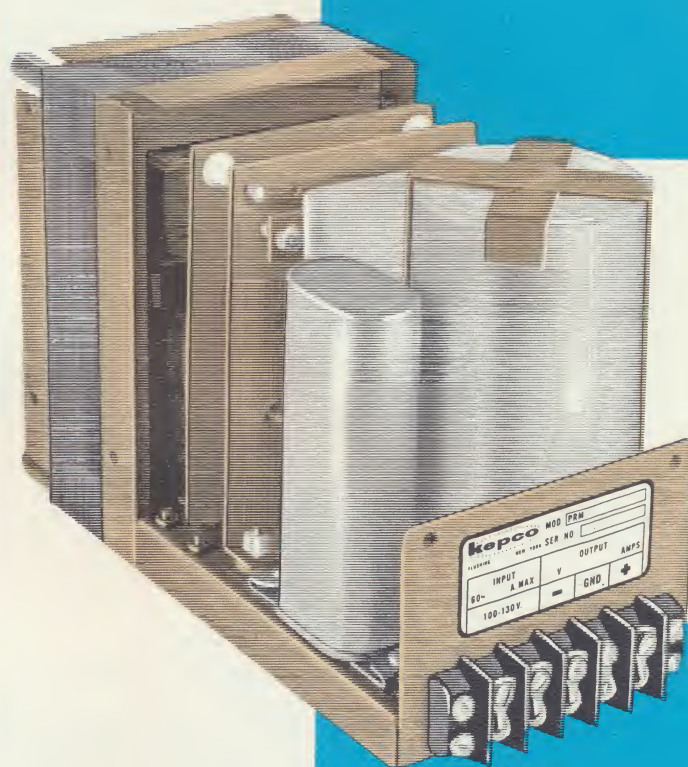
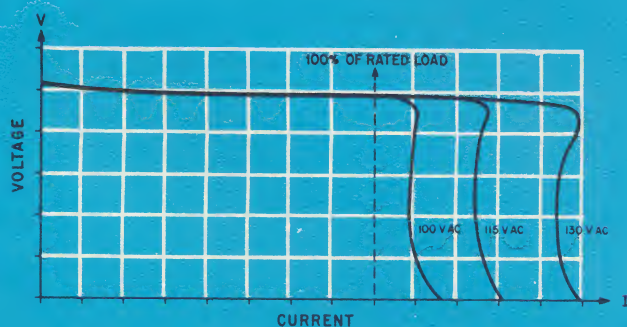


KEPCO REGULATED POWER MODULES



kepco
Inc.®

131-38 SANFORD AVENUE
FLUSHING, N.Y. 11352
Phone (212) IN 1-7000
TWX# 212-539-6623

- *more DC output watts per dollar, per pound, per cubic inch*
- *highly reliable, maintenance-free operation assured by good design and basic simplicity*
- *fixed DC output voltages*

±1% LINE REGULATION

MODEL	DC OUTPUT RANGE		LOAD REGULATION*		OUTPUT IMPEDANCE OHMS MAX.		RIPPLE MAX. RMS VOLTS
	VOLTS	AMPS	ΔV INCREASE 100% to 50% LOAD	ΔV INCREASE 100% to 25% LOAD	1 KC TO 10 KC	10 KC TO 100 KC + μH	
PRM 6-25	6	0-25	0.8	1.2	0.02	0.04 + 0.5	0.5
PRM 12-15	12	0-15	0.5	0.9	0.02	0.04 + 0.5	0.5
PRM 24-8	24	0-8	0.5	1.0	0.02	0.04 + 0.5	0.5
PRM 28-7	28	0-7	0.7	1.3	0.02	0.04 + 0.5	0.5
PRM 36-5	36	0-5	0.8	1.5	0.02	0.04 + 0.5	0.5
PRM 48-4	48	0-4	1.0	1.9	0.02	0.04 + 0.5	0.5

FIGURE 1

*Measured at 115V AC Line

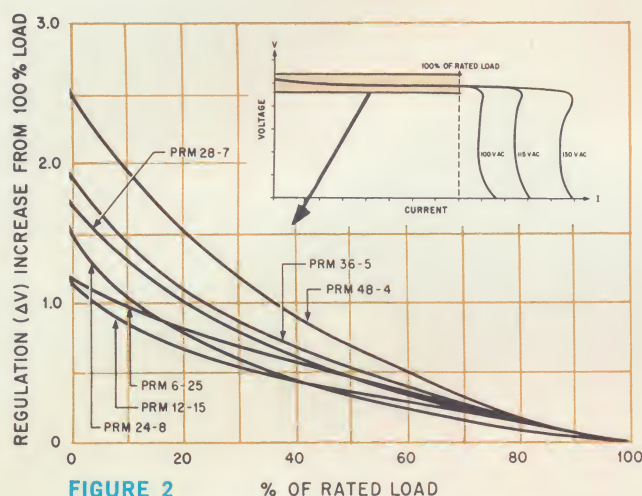
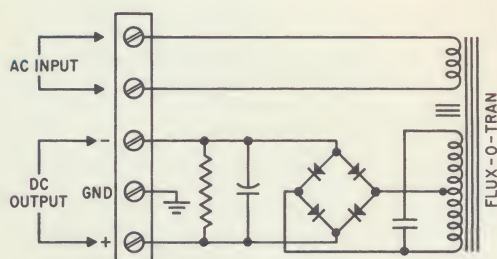


FIGURE 2
TYPICAL LOAD REGULATION FOR PRM UNITS



All models are designed for continuous operation without de-rating under all specified line, load and temperature conditions.

Data subject to change without notice
 PATENT NOTICE: Applicable Patent Nos.
 will be supplied on request.

SPECIFICATIONS (for all models)

REGULATION: LINE: Less than $\pm 1\%$ output voltage change for $115 \pm 15V$ AC line variation.

LOAD: See Figure 1 and Figure 2.

ACCURACY: $\pm 2\%$ of specified output voltage at nominal line, full load and $30^\circ C$ ambient temperature.

STABILITY: Output varies less than 1% or $0.1V$ whichever is greater over a period of 8 hours after warmup. Measured at constant line voltage, load and ambient temperature.

RIPPLE: For maximum ripple at maximum rated output voltage and current, see Figure 1. For typical ripple values at reduced output currents see Figure 3.

AMBIENT OPERATING TEMPERATURE: $-20^\circ C$ to $+55^\circ C$ maximum.

TEMPERATURE COEFFICIENT: Output voltage changes less than 0.05% per $^\circ C$.

OUTPUT IMPEDANCE: Specified for each model within the load frequency range shown in the table. Below 1000 cps, impedance is a function of load current and is determined by reference to the load regulation curve. Impedance is the slope of the curve $\Delta E / \Delta I$. Above 10 kc include the reactive impedance of the effective series inductance as indicated.

INPUT REQUIREMENTS: $115 \pm 15V$ AC, 60 cps $\pm 5\%$. Input current approximately 3 amperes, 280 watts.

Note: % changes in line frequency produce approximately equal % changes in output voltage linearly within stated input frequency tolerances.

PERFORMANCE FEATURES (for all models)

CONSTANT VOLTAGE TRANSFORMER: Flux-O-Tran[®] power transformer delivers regulated square wave voltage to rectifiers, improving rectifier and capacitor utilization and reducing output ripple.

OVERLOAD PROTECTION: Special Flux-O-Tran power transformer allows output to be shorted without adverse effect.

SILICON RECTIFIERS: Reliable, efficient, full wave rectification.

CAPACITIVE FILTER: No series choke, capacitive filtering provides excellent ripple reduction and minimizes transient response characteristics.

CONVECTION COOLING: Heat removal is by natural convection.

NO VOLTAGE OVERSHOOT: No output voltage overshoot from turn on, turn off or power failure.

ISOLATION VOLTAGE: Units can be connected in series up to 600 volts between chassis and either output terminal.

PARALLEL OPERATION: Supplies of the same output voltage can be paralleled for increased current.

PHYSICAL SPECIFICATIONS (for all models)

TERMINALS AND CONTROLS: On Rear of Chassis: Barrier strip terminals provide for AC input, DC output and ground connections. Output terminals are isolated from ground and either positive or negative output may be grounded.

DIMENSIONS: Uncased: $6\frac{3}{4}" H \times 4\frac{3}{4}" W \times 10\frac{3}{8}" D$.

Cased Dimensions: $6\frac{15}{16}" H \times 5" W \times 10\frac{7}{16}" D$.

STANDARD FINISH: Chassis: cadmium plated, cronak wash.

Case: blue anodized aluminum. Special case finishes to order.

ACCESSORIES: *Cased Unit:* To specify cased unit, add suffix "C" to the model no. eg: (PRM 24-8C for module with case). Case includes wraparound, 2 end plates and 4 feet for bench use (feet are removable).

RACK ADAPTER: Model RA 8-2— $5\frac{1}{4}$ " x 19"—accommodates 2 PRM Modules.

Model RA 9-3— 7 " x 19"—accommodates 3 PRM modules.

COLOR: Gray hammertone: (Special panel finishes to order).

CUSTOM OPTIONS: Special models available with custom ratings. Contact your nearest Kepco sales engineer with your special requirements.

APPLICATIONS:

INDUSTRIAL: Relay power, computers, data processing, office machines.

COMMUNICATIONS: Tube heaters, telephone systems, mobile radio, radio and TV studio, microwave.

MULTIPLE VOLTAGE ASSEMBLIES: Combine various PRM modules for unattended locations, laboratory benches.

TESTING: Aging racks, production line, bench testing.

BATTERY SUBSTITUTES: Rack equipment, air traffic control, OEM "built-in" chassis mounted.

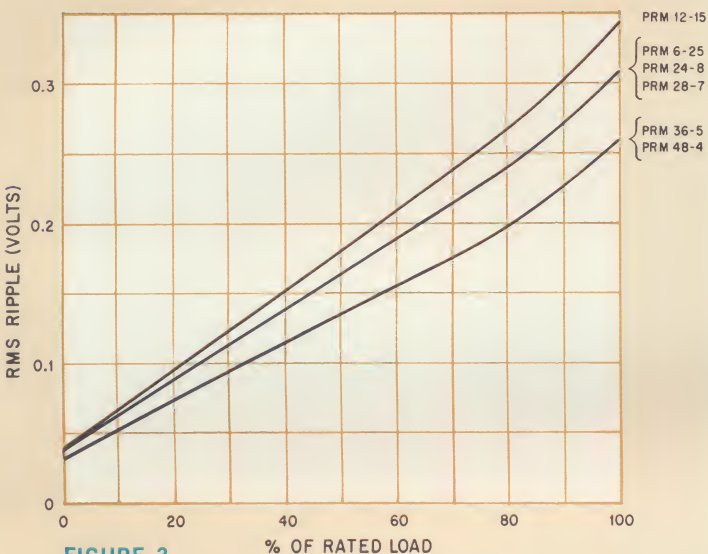
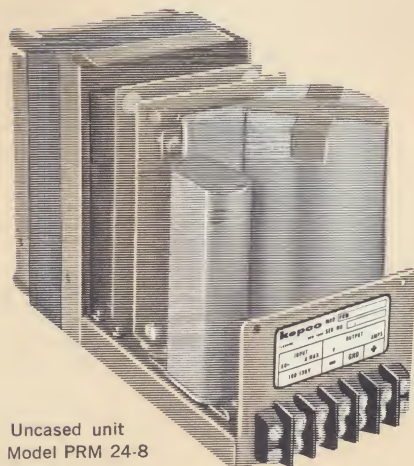
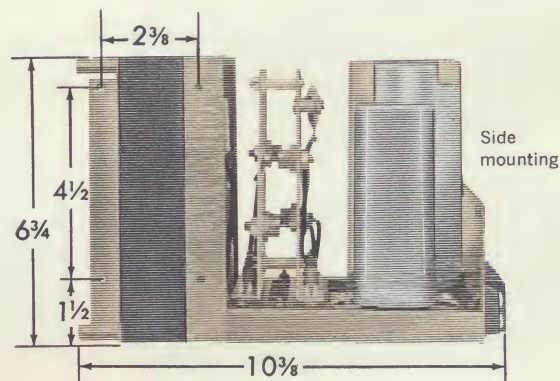
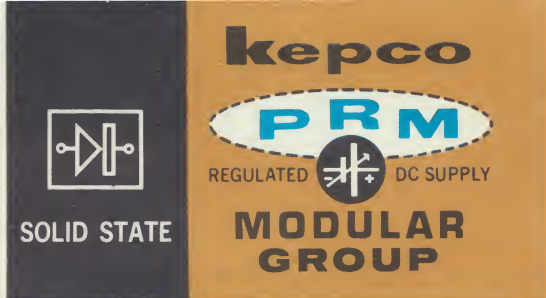


FIGURE 3

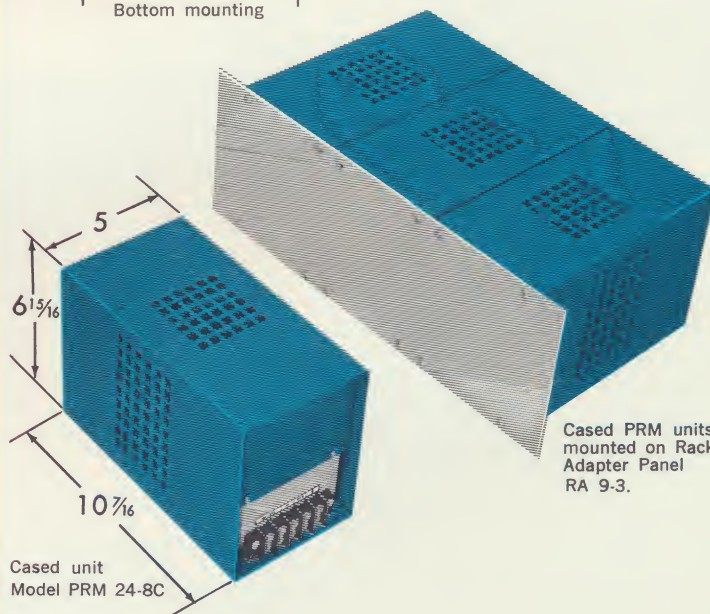
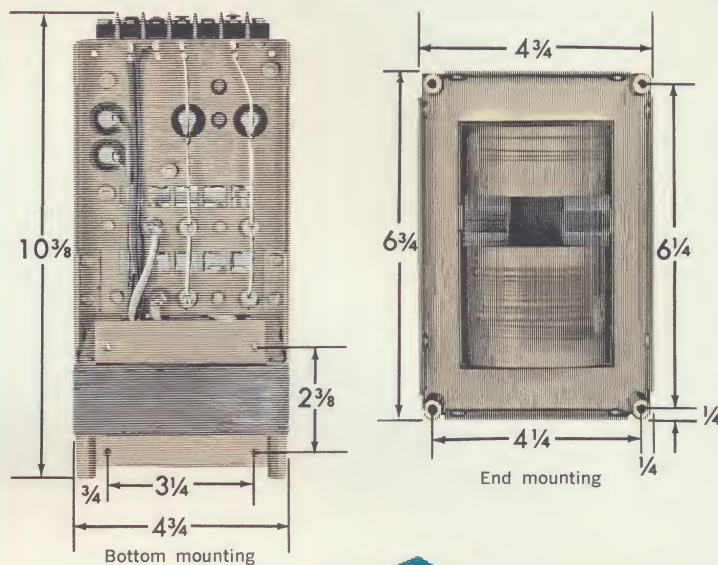
TYPICAL RIPPLE FOR PRM UNITS
AS A FUNCTION OF LOAD



Uncased unit
Model PRM 24-8



DIMENSIONS WITHOUT CASE



Cased PRM units
mounted on Rack
Adapter Panel
RA 9-3.

Cased unit
Model PRM 24-8C

kepco®

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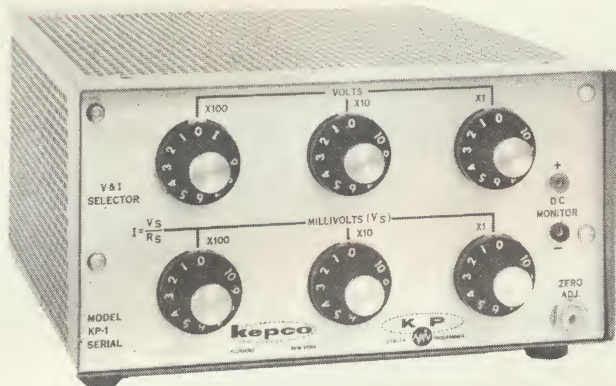
KEPCO DIGITAL RESISTANCE PROGRAMMERS MODELS KP-1 AND KP-10

Two DIGITAL RESISTANCE PROGRAMMERS are available to convert Kepco Programmable Power Supplies into highly stable, digitally controlled voltage or current sources.

MODEL KP-1

Six digit voltage programming

Three digit current programming



Kepco KP-1 is primarily for use with Kepco ABC, CK, PAC and SC Groups of Regulated Power Supplies, (1 milliamp Kepco bridge circuit).

- Decade switching 0 to 1,011,110 ohms, in 1-ohm-steps (0 to 1,011.110 volts in 1 millivolt steps).
- All decades contain 0.1 % resistors, except units decade (millivolts) which contain 1 % resistors.
- Programming output voltage of power supplies with control ratio of 1000 ohm/volt.
- Programming output current of power supplies with maximum current sensing voltage of 1 volt and control ratio of 1000 ohm/volt.
- Half-rack size (4 1/4" H x 8-5/32" W x 9 5/8" D).
- Rack adapter available.

MODEL KP-10

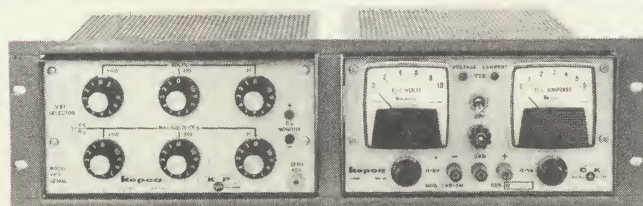
Six digit voltage programming



Three digit current programming

- Decade switching 0 to 101,111 ohms in 0.1-ohm-steps (0 to 1,011.110 volts in 1 millivolt steps).
- All decades contain 0.1 % resistors.
- Programming output voltage of power supplies with 100 ohm/volt control ratio.
- Programming output current of power supplies with maximum current sensing voltage of 1 volt and control ratio of 100 ohm/volt.

Primarily for use with Kepco HB and KS Groups of Regulated Power Supplies (10 milliamp Kepco circuit bridge).



Model KP-1

Model CK 8-5M

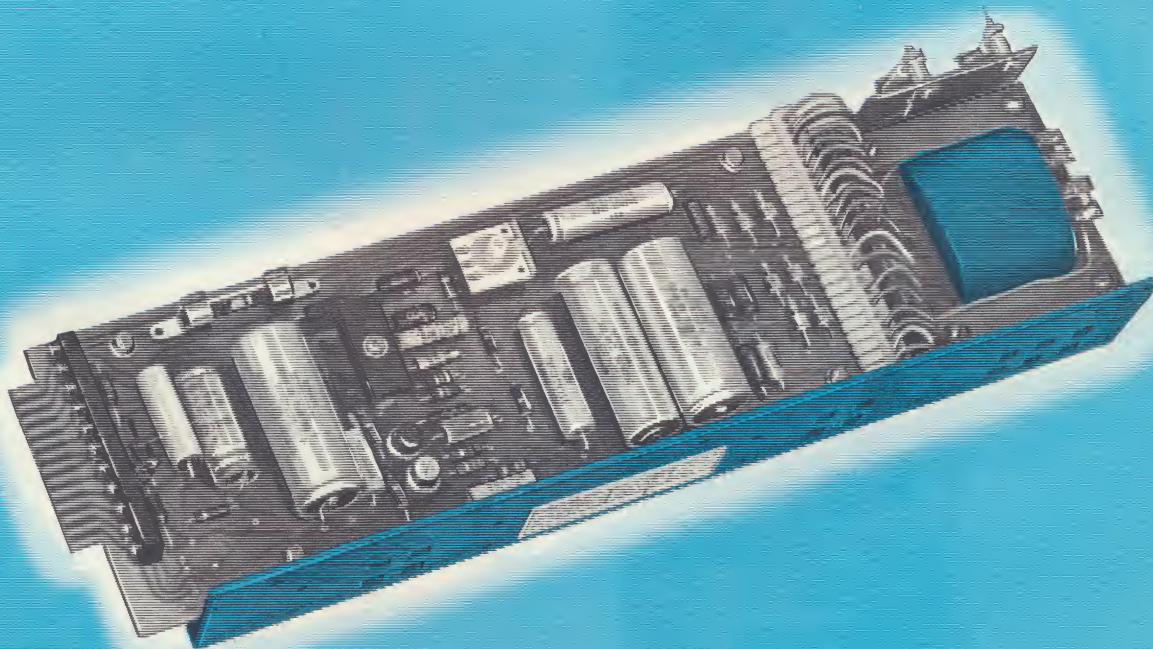
Typical rack assembly of Kepco KP-1 Programmer, controlling the CK 8-5M Kepco Regulated Power Supply.

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PATENT NOTICE: Applicable Patent Nos.
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KEPCO

MODULAR REGULATED POWER SUPPLY



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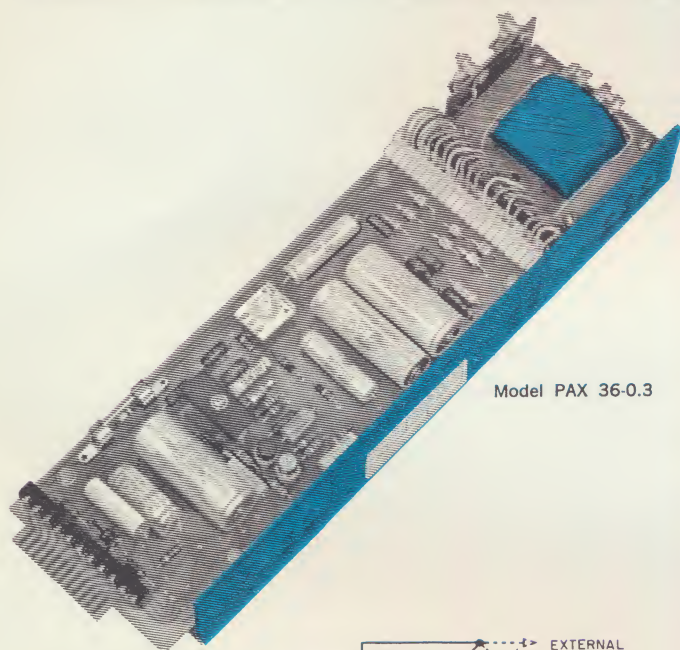
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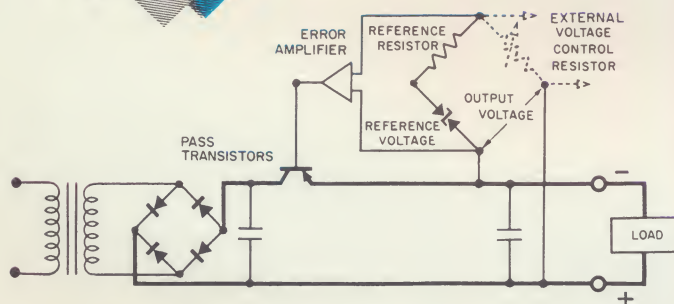
- voltage/current regulation
- full range programming
- laboratory or systems use
- versatile, compact design

0.05% REGULATION and STABILITY

MODEL	DC OUTPUT RANGE		OUTPUT IMPEDANCE OHMS MAX.			MAX. INPUT AMPS At 125 V AC
	VOLTS	AMPS	DC to 100 CPS	100 CPS to 1 KC	1 KC to 100 KC + μ H	
PAX 7—1	0—7	0—1	0.004	0.02	0.1+1	0.3
PAX 14—0.75	0—14	0—0.75	0.010	0.02	0.1+1	0.3
PAX 21—0.5	0—21	0—0.5	0.025	0.02	0.1+1	0.3
PAX 36—0.3	0—36	0—0.3	0.06	0.02	0.1+1	0.3
PAX 72—0.15	0—72	0—0.15	0.25	0.02	0.1+1	0.3



Model PAX 36-0.3



All models are designed for continuous operation without de-rating under all specified line, load and temperature conditions.

SPECIFICATIONS:

REGULATION: LINE: Less than 0.05% or 1 millivolt output voltage change, whichever is greater for $115 \pm 10V$ or $230 \pm 20V$ AC line variation, at any output voltage within the specified range.

LOAD: Less than 0.05% or 1 millivolt output voltage change, whichever is greater for NO LOAD to FULL LOAD change at any output voltage within the specified range.

STABILITY: Output varies less than 0.05% or 3 millivolts whichever is greater over a period of 8 hours after warmup. Measured at constant line voltage, load and ambient temperature.

RIPPLE: Less than 0.25 millivolt rms.

RECOVERY TIME: 50 microseconds.

AMBIENT OPERATING TEMPERATURE: $-20^{\circ}C$ to $+50^{\circ}C$ maximum.

TEMPERATURE COEFFICIENT: Output voltage changes less than 0.05% per $^{\circ}C$.

OUTPUT IMPEDANCE: Specified within the load frequency range shown in the table. Above 10 kc include the reactive impedance of the effective series inductance as indicated.

INPUT REQUIREMENTS: $115 \pm 10V$ or $230 \pm 20V$ AC 50—440 cps single phase.

PERFORMANCE FEATURES:

SHORT CIRCUIT PROTECTION: Unique current limiting circuitry permits continuous operation into a short circuit without the aid of fuses, circuit breakers or relays. Output returns instantly to the operating voltage when the overload is removed.

REMOTE PROGRAMMING: Special terminals provide for resistive voltage or current programming at 1000 ohms per volt. Programming terminals are also provided for programming by means of a remotely located voltage source.

CONSTANT CURRENT OPERATION (external sensing):

Current Regulated Output range: 1 milliamper to maximum rated output current.

Voltage Compliance: 100% of maximum output voltage. (For any selected current value the output voltage is automatically varied from 0 to the maximum output voltage, as required to regulate the output current.)

Data subject to change without notice
 PATENT NOTICE: Applicable Patent Nos.
 will be supplied on request.

Current Regulation: LINE: Less than 0.1% output current change for $115 \pm 10V$ or $230 \pm 20V$ AC line variation, at any output current within the current regulated range.

LOAD: Less than 0.1% output current change, for maximum change in load resistance at any output current within the current regulated range.

Current Ripple: Less than 0.1% of maximum current rms.

REMOTE ERROR SENSING: Separate sensing terminals enable specified regulation to be maintained directly at the load by compensating for voltage drops across the load supply leads.

CONVECTION COOLING: Heat removal is by natural convection.

NO VOLTAGE OVERSHOOT: No output voltage overshoot from turn-on, turn-off or power failure.

ISOLATION VOLTAGE: Units can be connected in series up to 500 volts between chassis and either output terminal.

PHYSICAL SPECIFICATIONS:

TERMINALS AND CONTROLS: *On Rear:* 11 terminal barrier strip and provision for accepting a 12 terminal printed circuit connector for AC input, DC output, error sensing and programming control functions. Output terminals are isolated from ground and either positive or negative output may be grounded.

DIMENSIONS: $2\frac{1}{2}"$ H x $3\frac{13}{16}"$ W x $12\frac{13}{16}"$ D. Uncased for chassis mounting.

Cased Unit: To specify cased unit, add suffix "C" to model no. eg: (PAX 36-0.3C for module with case).

Cased Dimensions: $2\frac{11}{16}"$ H x $4\frac{1}{8}"$ W x $13\frac{3}{16}"$ D.

Panel Adapter RAP 6-1: $5\frac{1}{4}"$ H x $2\frac{25}{32}"$ W. For mounting 6 cased units in Rack Cabinet RA 6-6. (Includes handle and fastener.)

Panel Adapter RAP 7-1: $3\frac{1}{2}"$ H x $4\frac{7}{32}"$ W. For mounting 4 cased units in Rack Cabinet RA 7-4. (Includes handle and fastener.)

STANDARD FINISH: *Case and Chassis:* Blue anodized aluminum. *Panel Adapter:* Etched aluminum — brushed and coated.

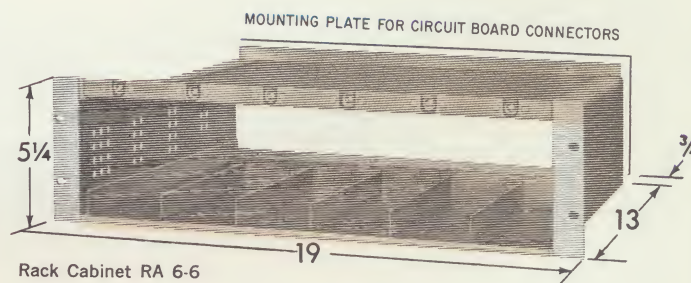
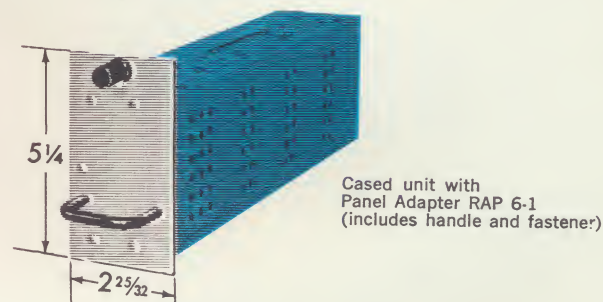
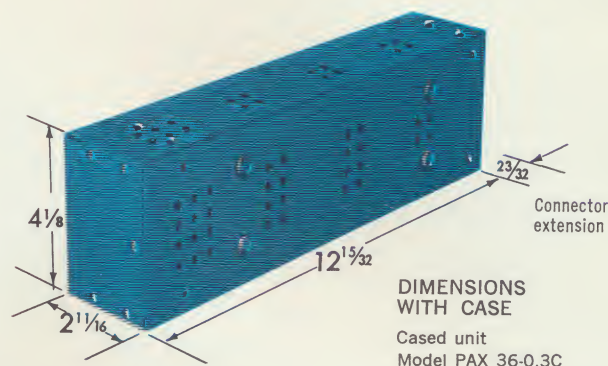
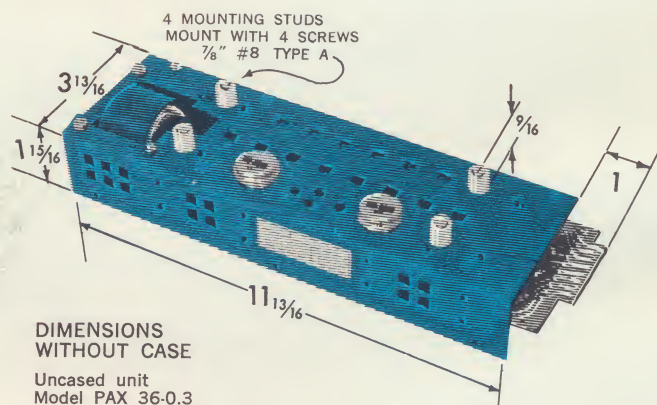
RACK CABINET: RA 6-6: $5\frac{1}{4}"$ H x 19" W x $13\frac{3}{4}"$ D for mounting six units.

RA 7-4: $3\frac{1}{2}"$ H x 19" W x $13\frac{3}{4}"$ D for mounting four units.

Special back plates with mounted mating connectors for printed circuit board connectors adapt the Rack Cabinets for plug-in mounting of the PAX units.

RA 6-6BP: for plug-in mounting of 6 units in Rack Cabinet RA 6-6.

RA 7-4BP: for plug-in mounting of 4 units in Rack Cabinet RA 7-4.





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